

REMARKS

Claims 1-36 and 38-82 were examined and reported in the Final Office Action. Claims 1-36 and 38-82 were rejected. Applicants amend claims 1, 4, 13, 18-19, 21-22, 25, 38-39, 41, 48, 56, 69-70, 72, and 76. Applicants reserve the right to prosecute the former claims in a divisional or continuation application. Applicants respectfully request reconsideration of pending claims 1-36 and 38-42, as amended, in view of at least the following remarks.

I. Claims Rejected Under 35 U.S.C. §102

The Patent Office rejects claims 1-6, 8-15, 18-21 under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,613,861 issued to Smith, et al. ("Smith").

Applicants respectfully disagree and submit that amended claim 1 is not anticipated by Smith for at least the reason that Smith does not describe the claim 1 limitations of one of a first element material and a second different element material, having a property that may be transformed in response to an external stimulus applied to one of the first and second element materials such that upon transformation, a geometric shape of an interconnection element is modified.

The spring contacts 15 of Smith are described as formed of an elastic conductive material, although they can be formed as a non-conductive or semi-conductive material if they are coated or plated with conductor material. (Smith, col. 4, lines 40-45.) Smith also teaches, "Likewise, if a uniform stress gradient $\Delta\sigma/h$ is introduced into the flat metal strip, the metal strip will bend into an arc shape." (Smith, col. 5, lines 6-9) Thus, Smith teaches a material formed with a stress gradient or a number of different stresses in material layers of the material. According to Smith, the stress gradient contributes to the final shape of the spring contact (see col. 5, lines 10-40). Thus, Smith teaches releasing an end of a contact to allow the contact to modify its shape in response to the stress gradient in the contact, but Smith does not teach an external stimulus applied to the contact.

Applicants respectfully request that the Patent Office withdraw the rejection of amended independent claim 1 under 35 U.S.C. §102(b) as being anticipated by Smith.

Applicants respectfully submit that dependent claims 2-6, 8-15, and 18-21 are allowable for at least the same reasons as allowable independent claim 1 from which they depend, and Applicants respectfully request that the Patent Office withdraw the rejection to claims 2-6, 8-15, and 18-21.

In addition, the Patent Office noted that, with regard to claim 4, Smith discloses a transformable property such that a first volume is transformed to a second different volume. Applicants are unable to find such teaching in Smith.

The Patent Office also noted that, with respect to claims 6 and 20, Smith discloses a transformation resulting from exposure to heat, citing col. 6, lines 36-39. The cited reference refers to the deposition of depositing metal layer 16, but does not describe heat transforming a geometric shape of spring contact 15.

II. Claims Rejected Under 35 U.S.C. §103

Dependent Claim 7

The Patent Office rejects claim 7 under 35 U.S.C. § 103(a) as obvious over Smith. The Patent Office adds "it is assumed that the materials used by Smith et al are adapted to transform their volume with 90 percent of volume change at a combination of above mentioned factors." (Final Office Action, page 9) Applicants respectfully disagree for at least two reasons. First, Applicants respectfully submit that Smith does not teach or suggest the limitations of claim 1, from which claim 7 depends, noted above, for the reasons noted above, and should be allowed for this first reason. Second, to the extent that the rejection applies to the amended claim, Applicants respectfully traverse the Patent Office's assertion quoted above, and request that the Patent Office cite a reference in support of this position, in accordance with MPEP §2144.03. Specifically, Applicants do not see where the stress gradient in the layers of material of Smith lead to

the assumption that those materials transform their volume. Hence, Applicants respectfully request that the Patent Office withdraw the rejection of claim 7 under 35 U.S.C. §103(a) over Smith for at least this second reason.

Dependent Claims 12-13

The Patent Office rejects claims 12 and 13 under 35 U.S.C. § 103(a) as obvious over Smith in view of Eldridge et al. (U.S. Patent No. 5,832,601) ("Eldridge"). To the extent the rejection applies to the amended claims, Applicants respectfully traverse the rejection for at least the following reason. Applicants respectfully submit that Eldridge does not remedy the defects of Smith discussed above regarding amended independent claim 1. Thus, Applicants respectfully request that the Patent Office withdraw the rejection to claims 12 and 13.

Dependent Claims 16-17, 22-28, 30-32, 35, 38-44, 46, 48-51, 55-59, 61-63, 66, 69-79

The Patent Office rejects claims 16-17, 22-28, 30-32, 35, 38-44, 46, 48-51, 55-59, 61-63, 66, and 69-79 under 35 U.S.C. § 103(a) as obvious over Smith in view of Faraci, et al. (U.S. Patent No. 5,810,609) ("Faraci"). To the extent that the rejection applies to the amended claims, Applicants respectfully traverse the rejection.

Dependent Claims 16-17

Applicants respectfully submit that dependent claims 16-17 are allowable for at least the same reason as allowable independent claim 1 from which they depend.

Applicants also respectfully request that the Patent Office withdraw the rejection to claims 16-17, as Faraci does not remedy the defects of Smith discussed above regarding independent allowable claim 1, from which claims 16-17 depend.

Claims 22-28, 30-32, 35, 38-44, and 46

Regarding independent claim 22, Applicants respectfully disagree for at least the reason that the cited references do not teach or suggest amended independent claim

22's limitations of one of a first element material, and a second different element material having a property that may be transformed in response to an external stimulus applied to one of the first and second element materials such that upon transformation of the element material, a shape of an interconnection element is transformed.

Applicants respectfully submit that Faraci does not remedy the defects of Smith discussed above regarding the above limitations of claim 22 corresponding to those cited further above for claim 1. Specifically, 1, Smith fails to teach or suggest a material having a property that may be transformed in response to an external stimulus. Moreover, the Patent Office has not identified, and the Applicants have been unable to find, any teaching or suggestion in Faraci that accounts for the above cited limitation of claim 22. Hence, Applicants assert that neither Smith, Faraci, nor the combination teach, suggest or describe the above cited limitation of claim 22, and, thus, respectfully request that the Patent Office withdraw the rejection of amended independent claim 22 under 35 U.S.C. §103(a) over Smith in view of Faraci.

Applicants respectfully submit that dependent claims 23-28, 30-32, 35, 38-44, and 46 are allowable for at least the same reasons as allowable independent claim 22, discussed above, from which they depend. Applicants respectfully request that the Patent Office withdraw the rejection to claims 23-28, 30-32, 35, 38-44, and 46.

Claims 48-51, 55-59, 61-63, 66, and 69-75

Regarding independent claim 48, Applicants respectfully disagree for at least the reason that the cited references do not teach or suggest amended independent claim 48's limitations corresponding to those cited above for amended claims 1 and 22. Therefore, for the same reasons as explained above for claims 1 and 22, Applicants submit that neither Smith, Faraci, nor the combination teach, suggest or describe the limitations for amended independent claim 48 corresponding to those discussed above regarding claims 1 and 22. Hence, Applicants respectfully request that the Patent Office withdraw the rejection of amended independent claim 48 under 35 U.S.C. §103(a) as being unpatentable over Smith in view of Faraci.

Applicants respectfully submit that dependent claims 49-51, 55-59, 61-63, 66, and 69-75 are allowable for at least the same reasons as allowable independent claim 48 from which they depend, and Applicants respectfully request that the Patent Office withdraw the rejection to those claims.

Claims 76-79

Regarding independent claim 76, Applicants respectfully disagree for at least the reason that the cited references do not teach or suggest amended claim 76's limitations of a property that may be transformed in response to an external stimulus applied to one of the first and second element materials such that upon transformation, a shape of the interconnection element is transformed. Applicants submit that the cited references do not teach, suggest or describe the above limitation of claim 76 for at least the reasons discussed above, with respect to independent claim 48. Thus, Applicants respectfully request that the Patent Office withdraw the rejection to claim 76.

Applicants respectfully submit that dependent claims 77-79 are allowable for at least the same reasons as allowable claim 76 from which they depend, and Applicants respectfully request that the Patent Office withdraw the rejection to those claims.

Dependent Claims 33 and 64

The Patent Office rejects dependent claims 33 and 64 under 35 U.S.C. § 103(a) as obvious over Smith in view of Eldridge. To the extent that the rejection applies to the amended claims, Applicants respectfully traverse the rejection for at least the reasons noted above with respect to claims 22 and 48 from which claims 33 and 64 depend. Moreover, regarding claim 33, Applicants respectfully submit that Eldridge does not remedy the defects of Smith discussed above regarding claim 22. Applicants respectfully request that the Patent Office withdraw the rejection to claim 33.

Similarly, claim 64, Applicants respectfully submit that Eldridge does not remedy the defects of Smith discussed above regarding claim 48. Applicants respectfully request that the Patent Office withdraw the rejection to claim 64.

Dependent Claims 29, 34, 60, and 65

The Patent Office rejects dependent claims 29, 34, 60, and 65 under 35 U.S.C. §103(a) as obvious over Smith in view of Faraci. The Patent Office states, "It would have been obvious to one having ordinary skill in the art at the time the invention was made to discover the claimed quantitative characteristics of the transformability volume and percent of spring material in the interconnection element." (Final Office Action, page 7) To the extent that the rejection applies to the amended claims, Applicants respectfully traverse the rejection, and request that the Patent Office cite a reference in support of changing about ninety percent of the volume of the interconnect element, in accordance with MPEP §2144.03. Hence, for this first reason, Applicants respectfully request that the Patent Office withdraw the rejection of claims 29, 34, 60, and 65 as being unpatentable over Smith in view of Faraci.

In addition, regarding claims 29 and 34, Applicants respectfully submit that Faraci does not remedy the defects of Smith discussed above regarding claim 22. Applicants respectfully request that the Patent Office withdraw the rejection to claims 29 and 34 for this second reason.

Also, regarding claims 60 and 65, Applicants respectfully submit that Faraci does not remedy the defects of Smith discussed above regarding claim 48. Applicants respectfully request that the Patent Office withdraw the rejection to claims 60 and 65 for this second reason.

Dependent Claims 34, 36, 47, 52-54, 65, 67, and 80-82

The Patent Office rejects dependent claims 34, 36, 47, 52-54, 65, 67, and 80-82 under 35 U.S.C. §103(a) as obvious over Smith in view of Faraci and further in view of U.S. Patent No. 5,772,451 issued to Dozier II, et al. ("Dozier").

Regarding claims 34, 36, and 47, Applicants respectfully submit that Faraci and Dozier do not remedy the defects of Smith discussed above regarding claim 22. In

addition. Applicants respectfully submit that there is no motivation or suggestion to combine Faraci and Dozier with Smith to remedy the defects of Smith. Applicants respectfully request that the Patent Office withdraw the rejection to claims 34, 36, and 47.

Regarding claims 52-54, 65, and 67, Applicants respectfully submit that Faraci and Dozier do not remedy the defects of Smith discussed above regarding claim 48, and that there is no motivation or suggestion to combine Faraci and Dozier with Smith to remedy the defects of Smith. Applicants respectfully request that the Patent Office withdraw the rejection to claims 52-54, 65, and 67.

Regarding claims 80-82, Applicants respectfully submit that Faraci and Dozier do not remedy the defects of Smith, discussed above regarding claim 76, and that there is no motivation or suggestion to combine Faraci and Dozier with Smith to remedy the defects of Smith. Applicants respectfully request that the Patent Office withdraw the rejection to claims 80-82.

Dependent Claim 45

The Patent Office rejects dependent claim 45 under 35 U.S.C. §103(a) as being unpatentable over Smith in view of Faraci and further in view of Khandros et al. (U.S. Patent No. 5,994,152) ("Khandros"). To the extent that the rejection applies to the amended claim, Applicants respectfully traverse the rejection.

Applicants respectfully submit that Faraci and Khandros do not remedy the defects of Smith discussed above regarding claim 22. Also, Applicants respectfully submit that there is no motivation or suggestion to combine Faraci and Khandros with Smith, to remedy the defects of Smith. Applicants respectfully request that the Patent Office withdraw the rejection of claim 45.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending (1) are in proper form, (2) are neither obvious nor anticipated by the relied upon art of record, and (3) are in condition for allowance. A Notice of Allowance is earnestly solicited at the earliest possible date. If the Patent Office believes that a telephone conference would be useful in moving the application forward to allowance, the Patent Office is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,
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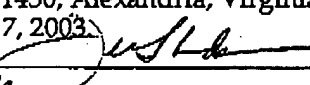
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I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office, Mail Stop AF, Commissioner for Patents, Post Office Box 1450, Alexandria, Virginia 22313-1450, on August 7, 2003.


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